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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,665	04/11/2002	Sybille Frank	0475-0204P	4705
26813 7590 09/10/2007 MUETING, RAASCH & GEBHARDT, P.A. P.O. BOX 581415 MINNEAPOLIS, MN 55458			EXAMINER LOPEZ, CARLOS N	
			ART UNIT 1731	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/049,665	<b>Applicant(s)</b> FRANK ET AL.	
	<b>Examiner</b> /Carlos Lopez/	<b>Art Unit</b> 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 17-21,34-39 and 41-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-21,34-39 and 41-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-18, 20-21, 37-38, and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hintersehr (US 5,702,650) in view of Filser et al All Ceramic Dental Bridges, pages 165-189. Hintersehr discloses a method of making dental ceramic prosthesis. Hintersehr teaches of forming a presintered material and then dimensioning through a milling process prior to being densily vitrified (See bridging paragraph of Col. 2-3 and claims 1 and 3 of Hintersehr).

Hintersehr is silent in rough and fine milling of the presintered material. However, Filser teaches of rough and fine milling of the presintered material prior to fully sintering the material at a temperature of 1500°C, see pages 168-170. Filser teaches of rough and fine machining prior to sintering allows for easy machining of the presintered material.

Hintersehr is also silent disclosing the raw breaking resistance of the pre-sintered material. However, the composition of the presintered material of Hintersehr is similar to the composition as recited in instant claim 34. Hintersehr does not specifies that 0.05 to .5 wt % of an oxide is chosen from gallium, germanium, indium, or aluminum.

In view that only an oxide with 0.05 wt % differs from that of Hintersehr and the composition used by the applicant, and that the oxide used by applicant is to affect the sintering temperature and hydrolytic resistance of the material, it would be obvious to a person of ordinary skill in the art at the time the invention was made, that the claimed raw breaking resistance is a shared, or reasonably be expected to be shared by Hintersehr's composition.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have fine and rough milled the presintered blanks of Hintersehr as taught by Filser in order to easily provide a dental prosthesis without the complications of milling a hardened sintered material.

The composition of Hintersehr being substantially the same as the composition of the claimed invention would be expected to have the claimed raw breaking resistance. While it is acknowledged that the 0.05% wt of an oxide chosen from gallium, germanium, indium, or aluminum makes a difference in the composition, the noted oxide appears to create no substantial effect on the raw breaking resistance to a degree that a composition not having the noted oxides, such as Hintersehr's composition, would not share the claimed raw breaking resistance.

In conclusion, in view that the material of Hintersehr's composition is pre sintered to the claimed temperature and is significantly similar in composition to the claimed invention, the difference being an added oxide that affects the sintering and hydrolytic resistance of the material, it would be obvious to a person of ordinary skill in the art to have expected the claimed raw breaking resistance.

As for claim 20, the machining of the material in and out of contact of the tooth stump would be expected in order to provide a dental prosthesis that properly fits inside the dental patient.

As for claims 37-38, Filser teaches of pre-sintering the material to 850°C, see page 168.

In regards to new claims 41-43, see the above corresponding features.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hintersehr (US 5,702,650) in view of Filser et al All Ceramic Dental Bridges, pages 165-189 and in further view of Filser, All ceramic Dental Bridge slide presentation.

Hintersehr and Filser papers do not disclose the type of machine used for processing the dental prosthesis. However, Filser's slide presentation specifies the type of machine to use for rough and fine milling of the presintered blank. As noted in page 3 subheading "Machining", Filser notes the claimed parameters of the milling machine.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to use the milling machine as noted in Filser's slide to provide the means for making a dental prosthesis derived from the combined teachings of Filser and Hintersehr.

### ***Response to Arguments***

Applicant's arguments filed 6/21/07 have been fully considered but they are not persuasive. Applicant argues that "Because the composition disclosed by Hintersehr lacks 0.05 to 0.50 wt.-% of at least one of the oxides of the elements aluminum, gallium, germanium, indium, and further because the oxides are acknowledged by the Examiner as used to affect the sintering

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temperature, Applicants respectfully submit that it does not logically follow that the claimed raw breaking resistance is shared, or reasonably expected to be shared, by Hintersehr's composition."

In view that only an oxide with 0.05 wt % differs from that of Hintersehr and the composition used by the applicant, and that the oxide used by applicant is to affect the sintering temperature and hydrolytic resistance of the material, it would be obvious to a person of ordinary skill in the art at the time the invention was made, that the claimed raw breaking resistance is a shared, or reasonably be expected to be shared by Hintersehr's composition.

The composition of Hintersehr being substantially the same as the composition of the claimed invention would be expected to have the claimed raw breaking resistance. While it is acknowledged that the 0.05% wt of an oxide chosen from chosen from gallium, germanium, indium, or aluminum makes a difference in the composition, the noted oxide appears to create no substantial effect on the raw breaking resistance to a degree that a composition not having the noted oxides, such as Hintersehr's composition, would not share the claimed raw breaking resistance.

In conclusion, the difference in chemical composition of 0.05% wherein the chemical being used affects the sintering temperature, and not the raw breaking resistance, would lead to a person of ordinary skill in the art that the raw breaking resistance is shared by the above noted references.

Applicant also argues that the raw breaking is depended on time and temperature profile. Yet the claim does not disclose any temperature profile. In arguing

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that raw breaking resistance is depended on time and temperature it would thus seem that it is an essential element that is not included in the claimed invention.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is 571.272.1193. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571.272.1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Carlos Lopez/  
Primary Examiner  
Art Unit 1731

CL